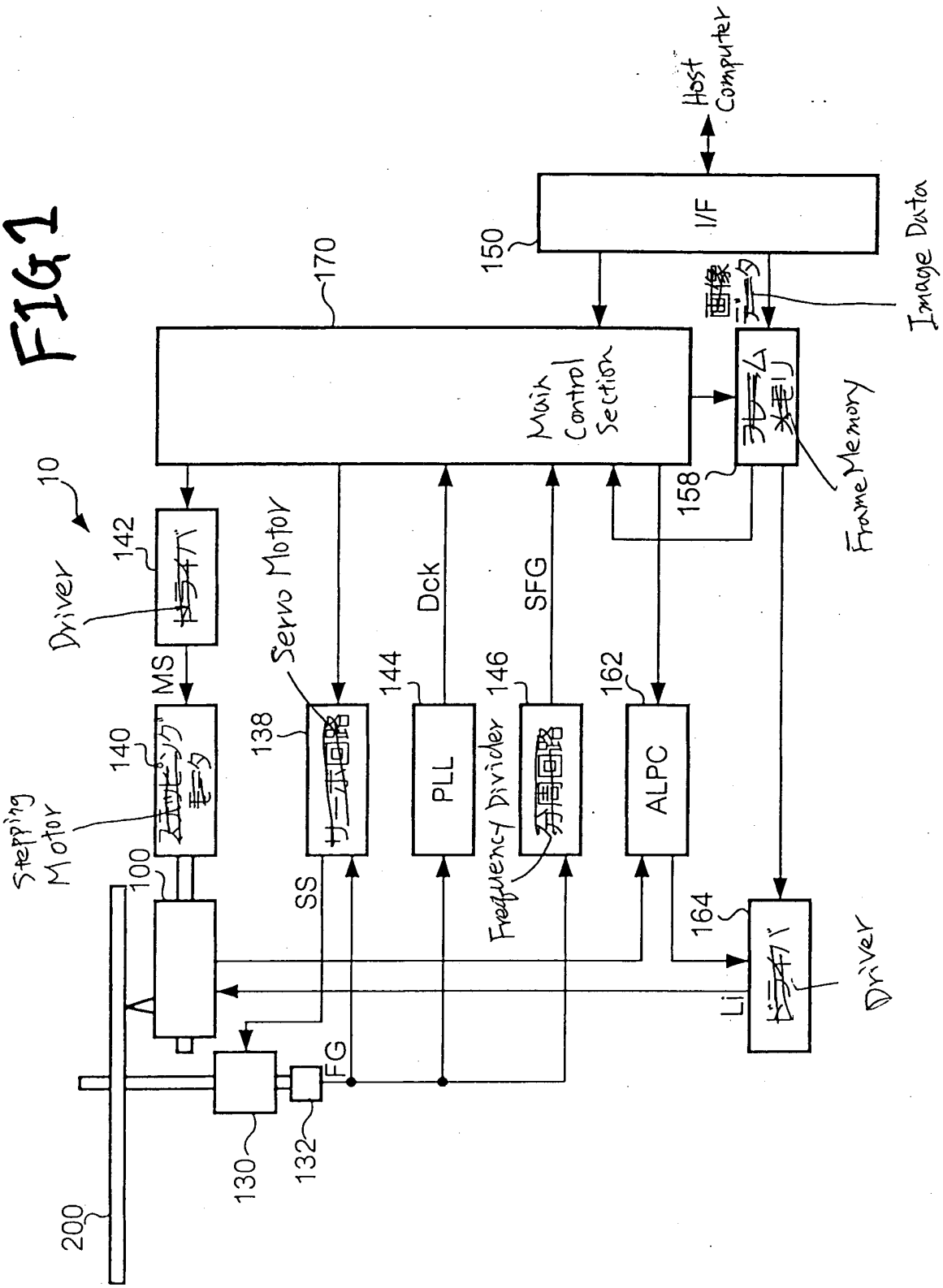
FIG1


Host Computer
I/F
150
170
Main Control Section
Image Data
Frame Memory
158
10
Driver
142
Servo Motor
MS
Dck
SFG
144
146
162
138
140
PLL
ALPC
Frequency Divider
Stepping Motor
100
SS
FG
164
Driver
130
132
200

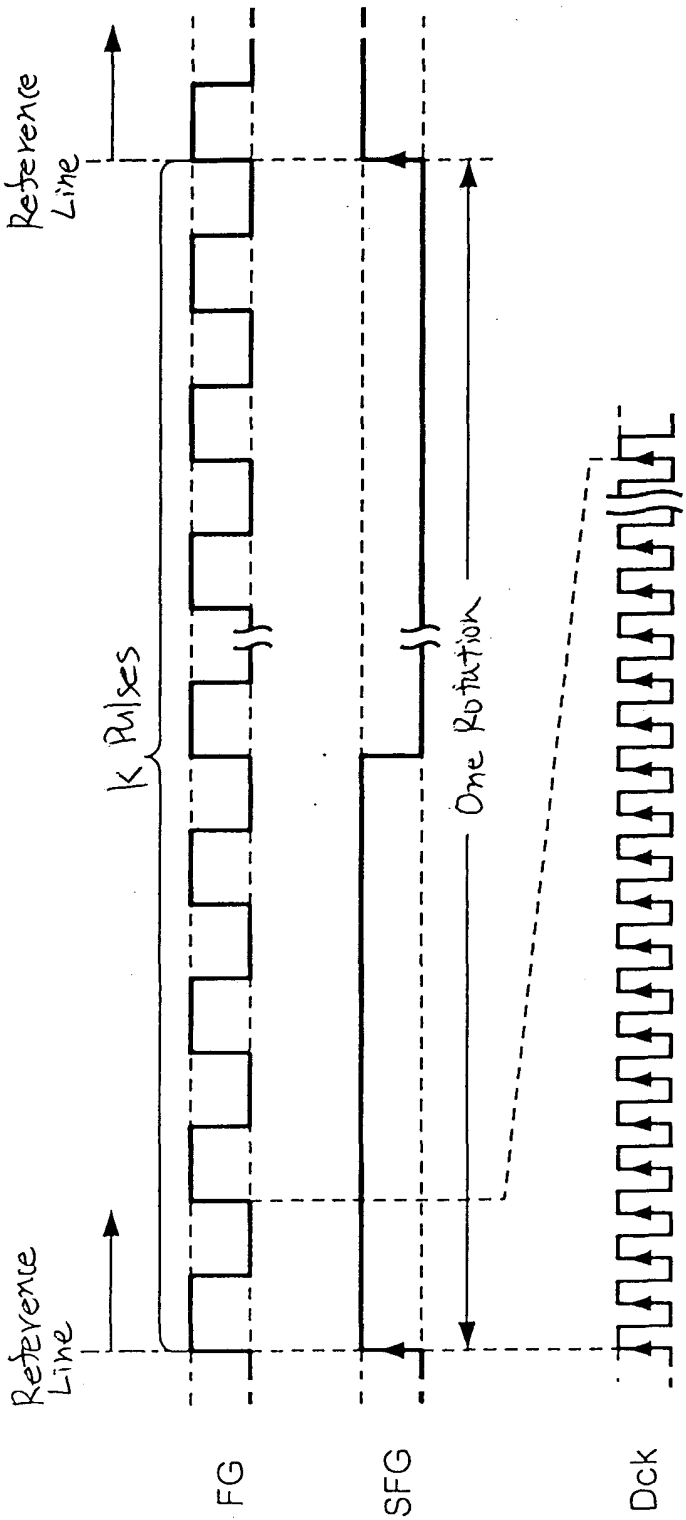

Reference Line
K Pulses
One Rotation
Reference Line
FG
SFG
Dck
1 2 3 4 5 6 7 . . .
Column

FIG. 2

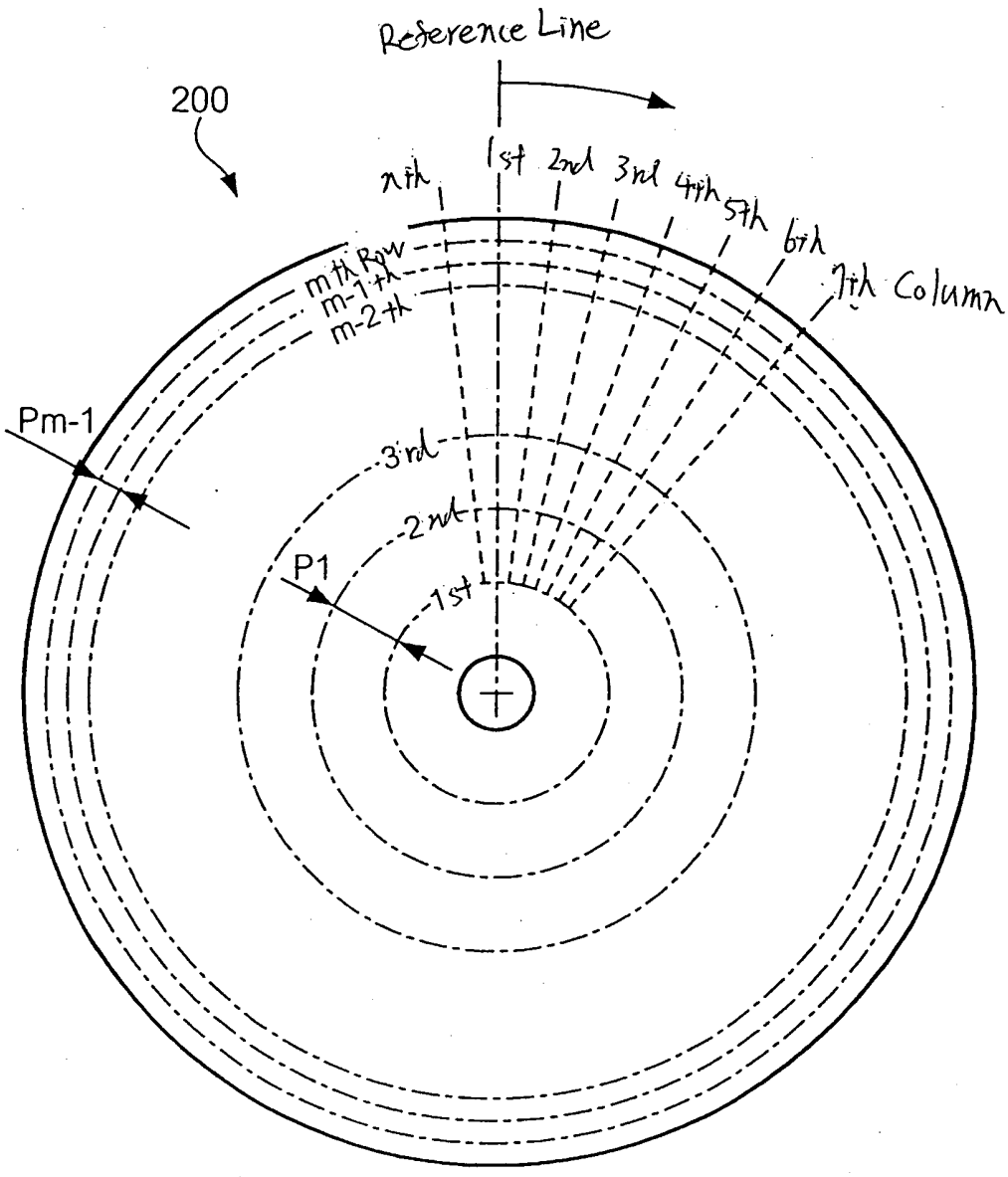

Reference Line
200
nth
1st
2nd
3rd
4th
5th
6th
7th Column
mth Row
m-1th
m-2th
Pm-1
3rd
2nd
P1
1st
<Label Face>

FIG. 3

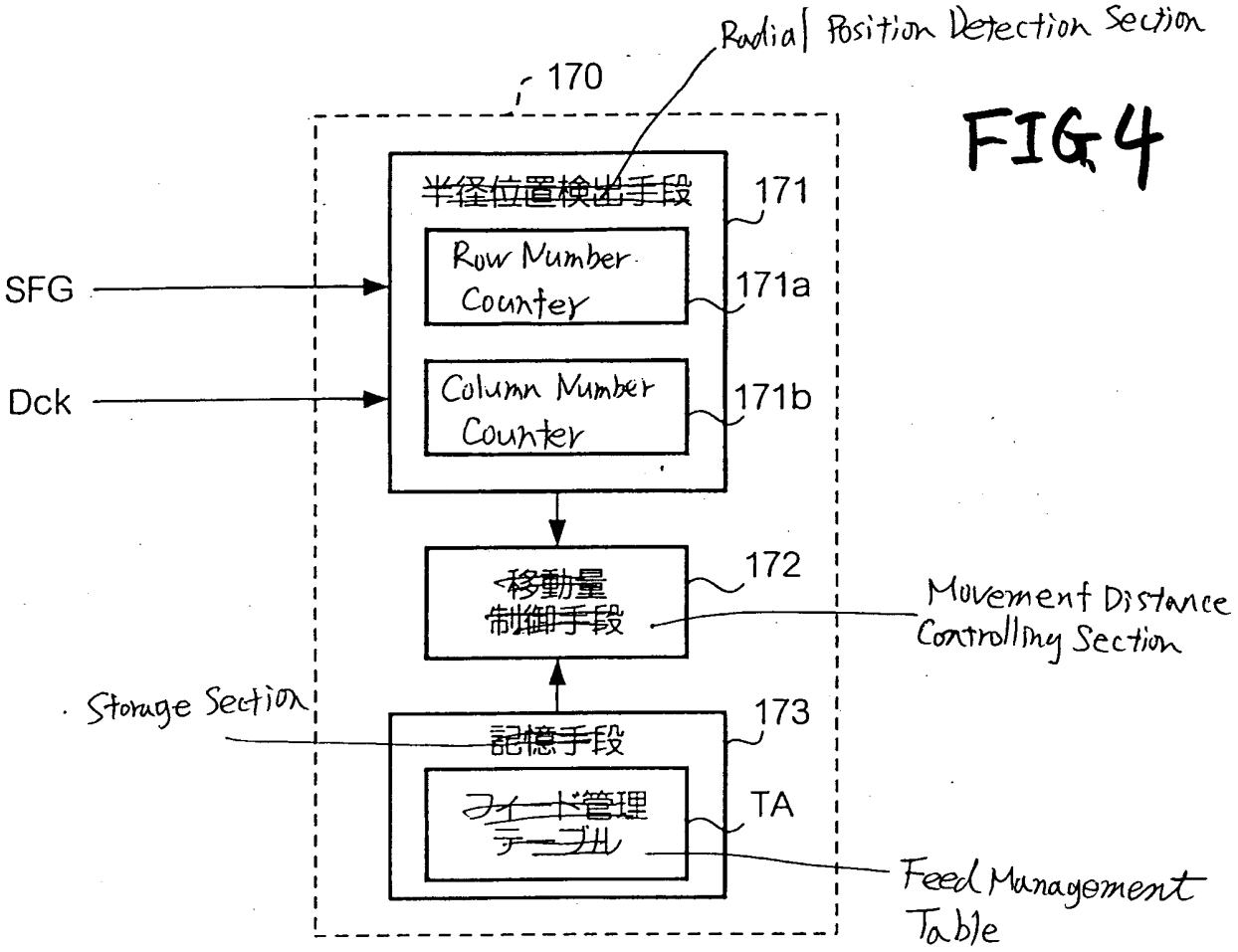


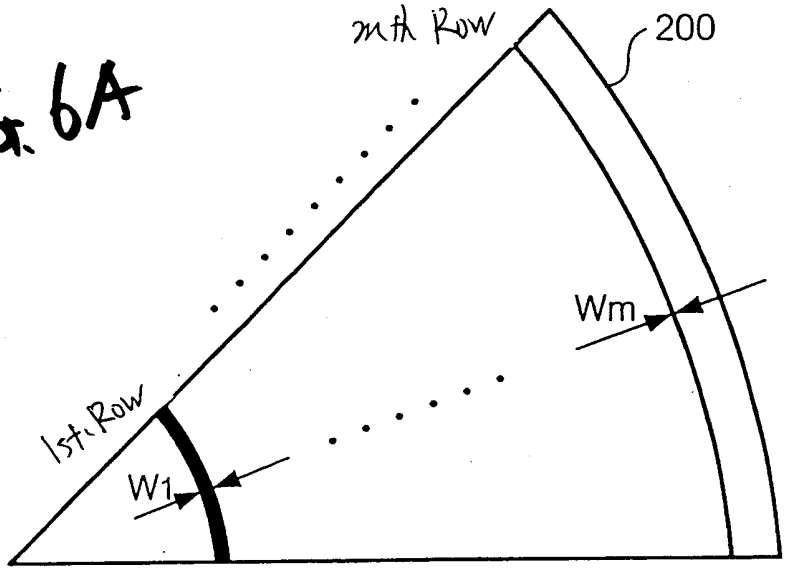
FIG 4

FIG 5

<Feed Management Table TA>

Radial Position	Movement Distance
1st → 2nd Row	p1
2nd → 3rd Row	p2(<p1)
⋮	⋮
m-2th → m-1th Row	pm-2(<pm-3)
m-1th → m th Row	pm-1(<pm-2)

FIG. 6A


mth Row
200
Wm
1st Row
W1

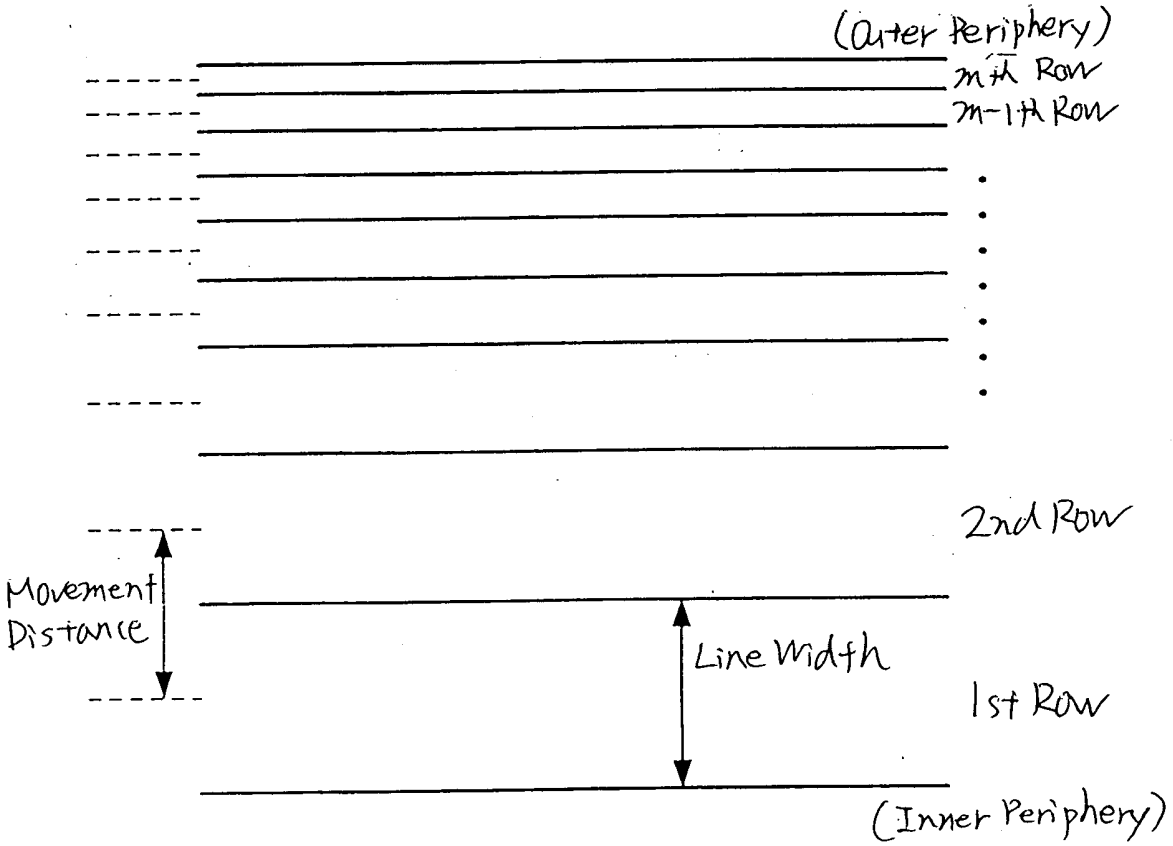

(Outer Periphery)
mth Row
m-1th Row
2nd Row
Movement Distance
Line Width
1st Row
(Inner Periphery)

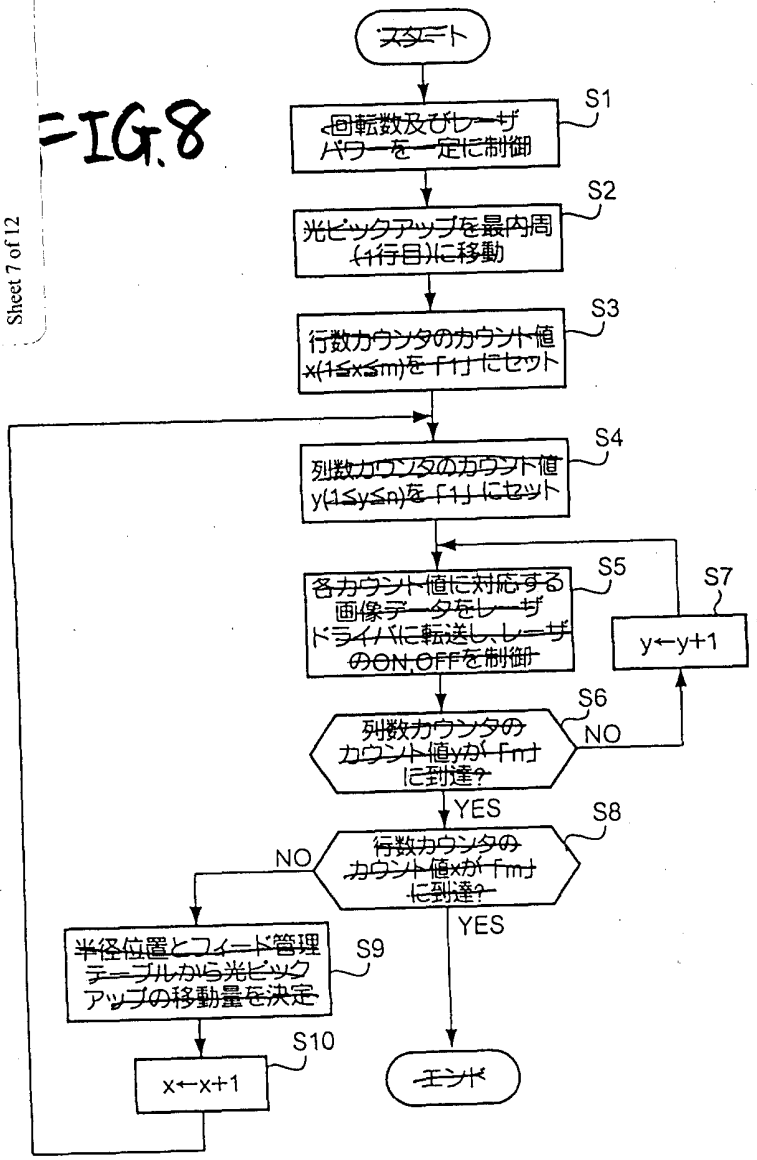
FIG. 6B

Image Data

	1st Column	2nd Column	3rd Column	...	n-1th Column	nth Column
1st Row	ON	OFF	ON	...	ON	OFF
2nd Row	OFF	OFF	OFF	...	OFF	OFF
3rd Row	ON	ON	OFF	...	OFF	ON
⋮	⋮	⋮	⋮	⋮	⋮	⋮
m-1th Row	OFF	ON	ON	...	ON	ON
mth Row	ON	OFF	OFF	...	OFF	ON

FIG. 7

FIG.8



START

S1 CONTROL ROTATION NUMBER AND LASER POWER TO BE CONSTANT

S2 MOVE OPTICAL PICKUP TO INNERMOST PERIPHERY (1ST ROW)

S3 SET COUNT VALUE x ($1 \leq x \leq m$) OF ROW NUMBER COUNTER TO "1"

S4 SET COUNT VALUE y ($1 \leq y \leq n$) OF COLUMN NUMBER COUNTER TO "1"

S5 TRANSFER IMAGE DATA CORRESPONDING TO COUNT VALUES TO LASER DRIVER, TO CONTROL ON AND OFF OF LASER

S6 COUNT VALUE y OF COLUMN NUMBER COUNTER REACHES "n"?

S8 COUNT VALUE x OF ROW NUMBER COUNTER REACHES "m"?

S9 DETERMINE MOVEMENT DISTANCE OF OPTICAL PICKUP FROM RADIAL POSITION AND FEED MANAGEMENT TABLE

END

FIG. 9

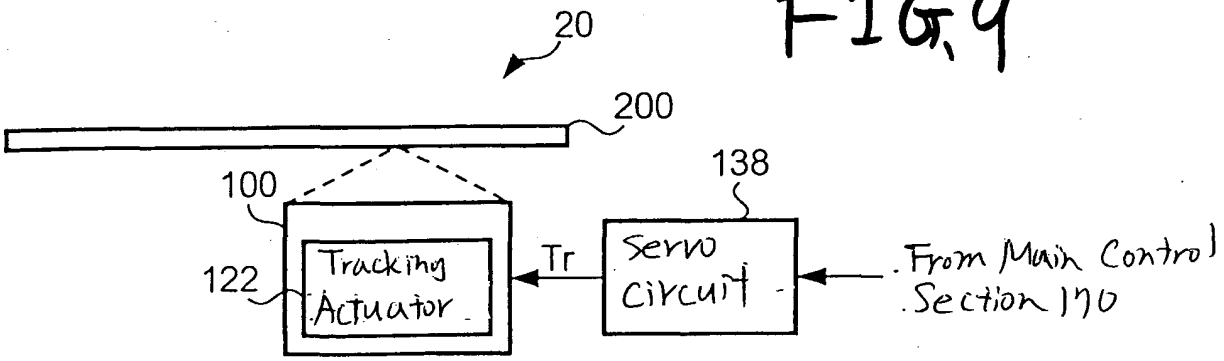
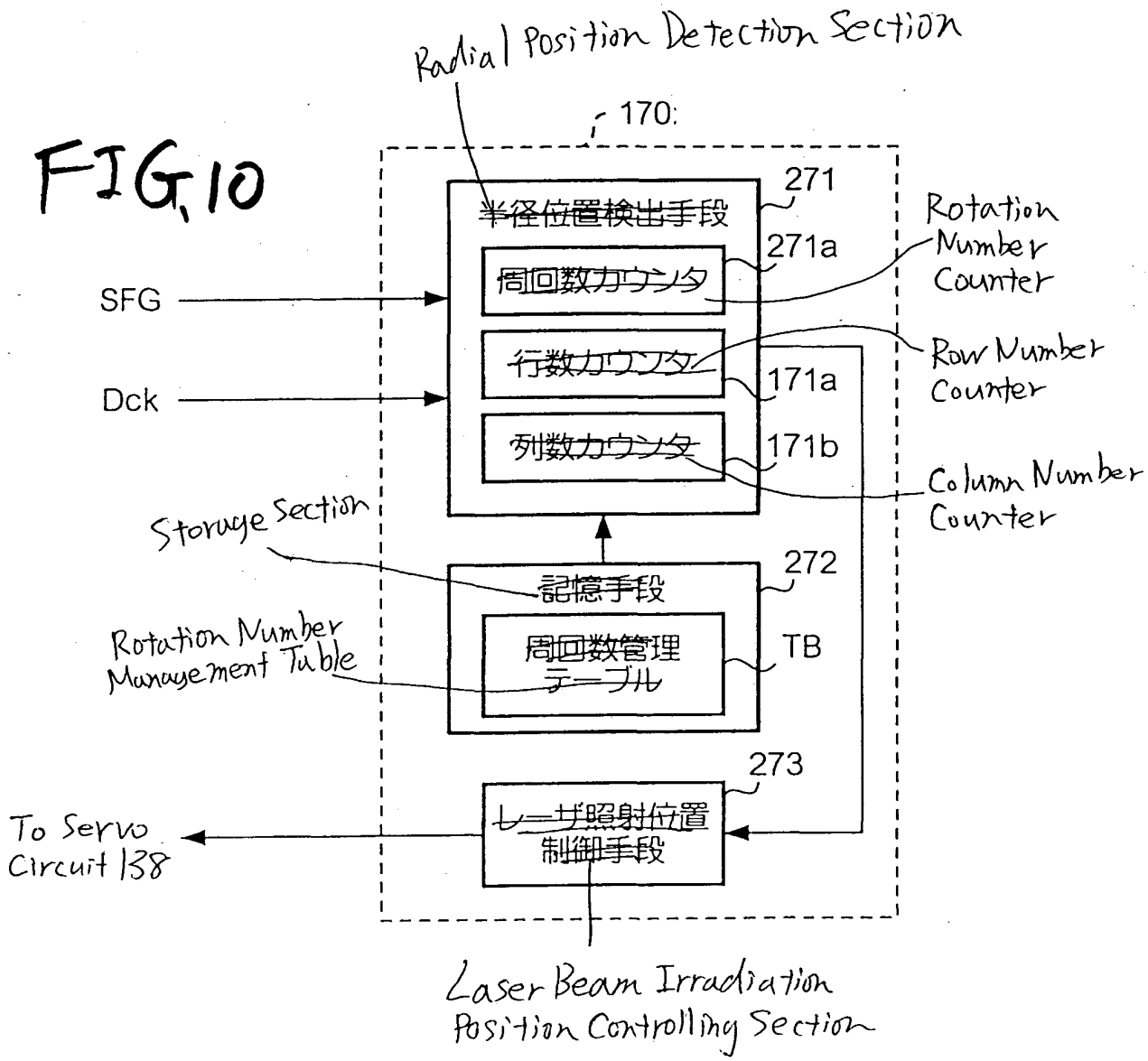

20
200
138
100
Tracking Actuator
122
Tr
Servo circuit
From Main Control Section 170

FIG. 10


Radial Position Detection Section
170
271
半径位置検出手段
271a
周回数カウンタ
Rotation Number Counter
SFG
行数カウンタ
Row Number Counter
Dck
171a
171b
列数カウンタ
Column Number Counter
Storage Section
272
記憶手段
Rotation Number Management Table
周回数管理テーブル
TB
273
レーザ照射位置制御手段
To Servo Circuit 138
Laser Beam Irradiation Position Controlling Section

<Rotation Number Management Table TB>

Radial Position	Number of Rotation
1st Row	1 Rotation
2nd Row	2 Rotations
3rd Row	3 Rotations
⋮	⋮
m-1th Row	m-1 Rotations
mth Row	m Rotations

FIG. 11

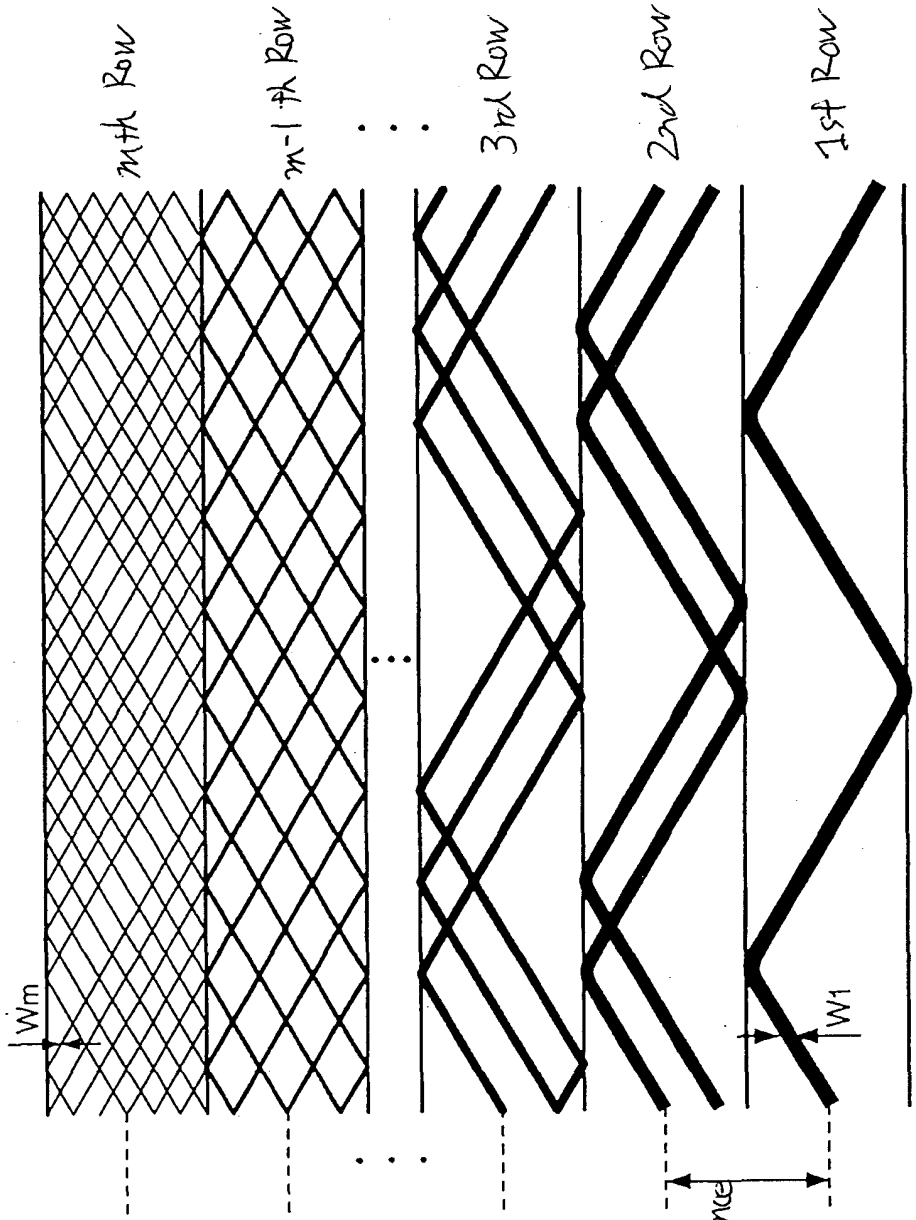

mth Row
m-1 th Row
3rd Row
2nd Row
1st Row
Wm
W1
Movement Distance
(Constant)

FIG 12

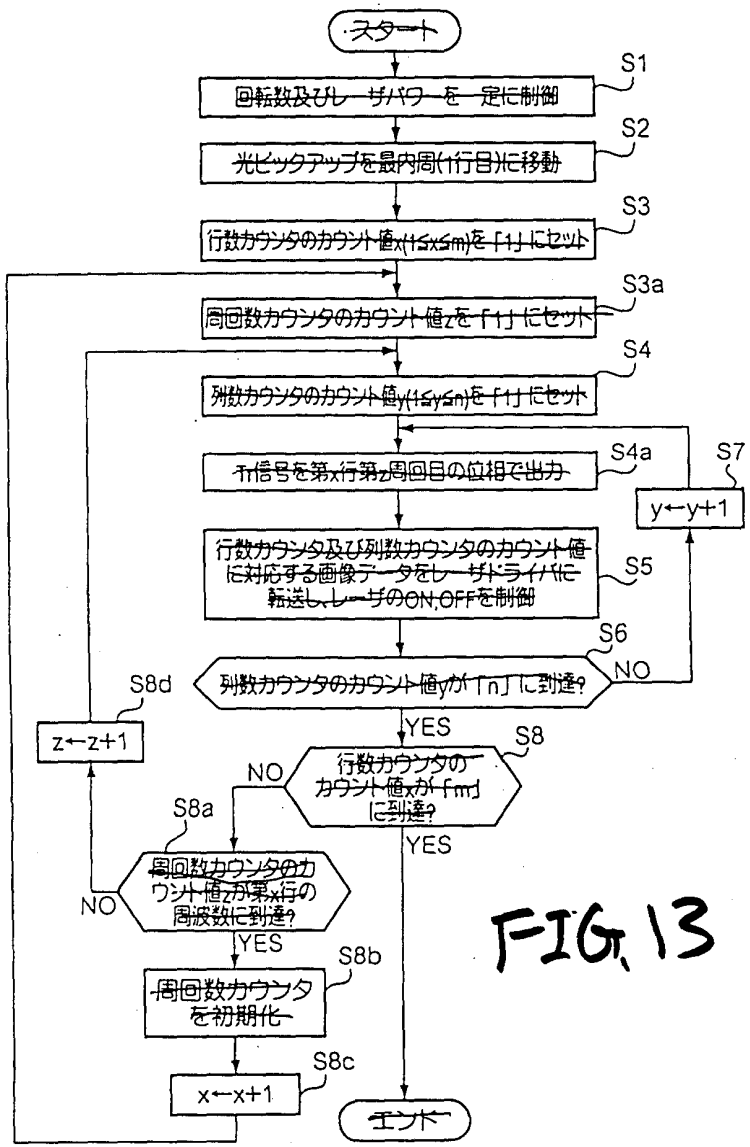


FIG. 13

START

S1 CONTROL ROTATION NUMBER AND LASER POWER TO BE CONSTANT

S2 MOVE OPTICAL PICKUP TO INNERMOST PERIPHERY (1ST ROW)

S3 SET COUNT VALUE x ($1 \leq x \leq m$) OF ROW NUMBER COUNTER TO "1"

S3a SET COUNT VALUE Z OF ROTATION NUMBER COUNTER TO "1"

S4 SET COUNT VALUE y ($1 \leq y \leq n$) OF COLUMN NUMBER COUNTER TO "1"

S4a OUTPUT SIGNAL Tr AT PHASE OF x-TH ROW AND z-TH ROTATION

S5 TRANSFER IMAGE DATA CORRESPONDING TO COUNT VALUES OF ROW AND COLUMN COUNTERS TO LASER DRIVER, TO CONTROL ON AND OFF OF LASER

S6 COUNT VALUE y OF COLUMN NUMBER COUNTER REACHES "n"?

S8 COUNT VALUE x OF ROW NUMBER COUNTER REACHES "m"?

S8a COUNT VALUE z OF ROTATION NUMBER COUNTER REACHES ROTATION NUMBER OF x-TH ROW?

S8b INITIALIZE ROTATION NUMBER COUNTER

END

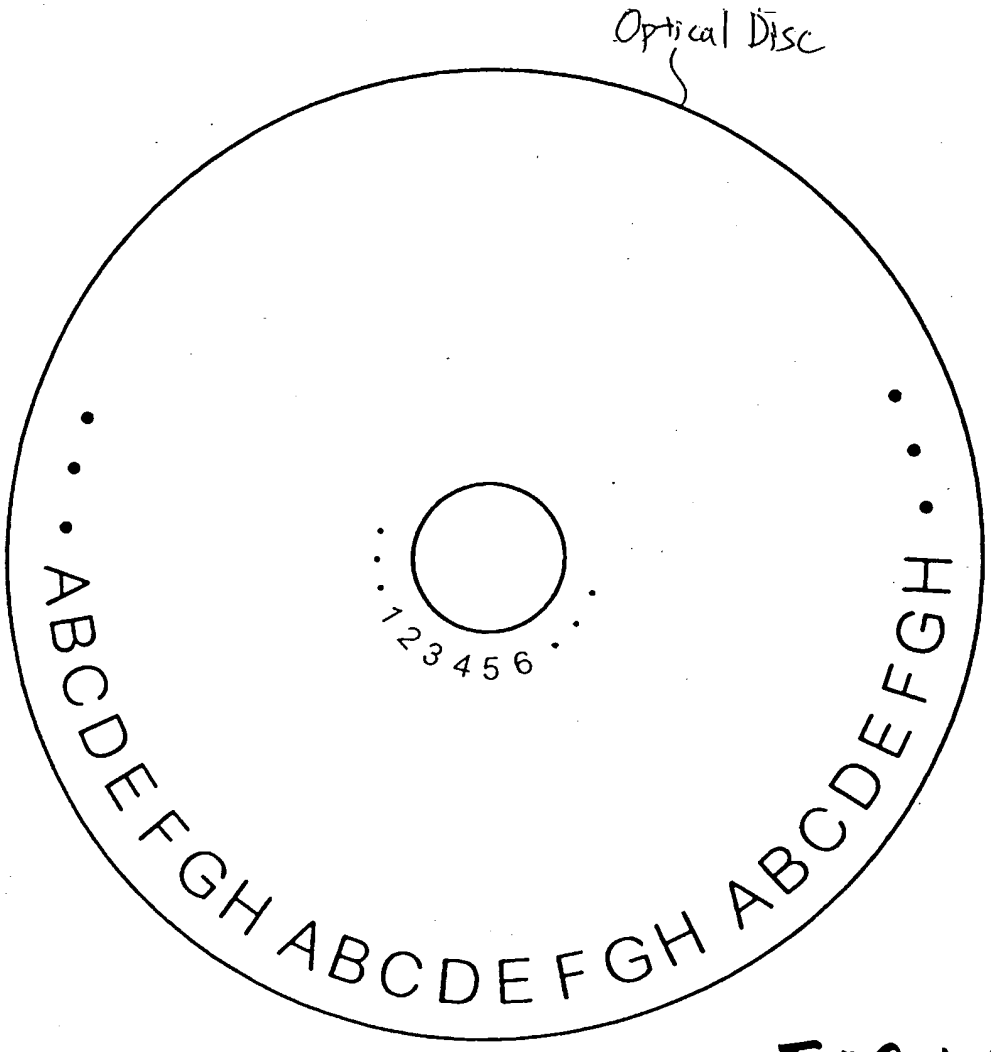


FIG. 14